



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/718,561	11/24/2003	Myoung-Kee Baek	42165-0009	1881
30827	7590	02/08/2006	EXAMINER	
MCKENNA LONG & ALDRIDGE LLP 1900 K STREET, NW WASHINGTON, DC 20006				EVANISKO, LESLIE J
ART UNIT		PAPER NUMBER		
		2854		

DATE MAILED: 02/08/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	10/718,561	BAEK ET AL.
	Examiner	Art Unit
	Leslie J. Evanisko	2854

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 22 November 2005.
- 2a) This action is **FINAL**. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-12 is/are pending in the application.
 - 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-12 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 10 June 2005 is/are: a) accepted or b) objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. _____.
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
	6) <input checked="" type="checkbox"/> Other: <u>marked-up copies of various Figures from US 5127330 + US 2003/0084796</u>

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Drawings

2. The replacement sheets of drawings were received on June 10, 2005. These drawings are approved by the Examiner.

Claim Objections

3. Claims 2-4 are objected to because of the following informalities:

With respect to claim 2, it is suggested that the term "including" in line 2 be deleted to provide less awkward and seemingly redundant claim language. Appropriate correction and/or clarification is required.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 1, 5-7, and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okazaki et al. (US 5,127,330). Okazaki et al. teach a method as recited comprising the steps of providing a cliché 1 having at least a first groove structure having a first width and a second groove structure having a second width, filling a resist material (see column 4, lines 43-46) into the first and second groove structure of the cliché, and applying the resist material filled into the first and second groove structure of the cliché onto an etching object layer (i.e., surface of substrate 6 that will be later etched--see, for example, column 9, lines 27-29) of a substrate 6. Note that although Okazaki et al. is silent with respect to whether the second groove structure width is divided into multiples of the first width and an interval therebetween, note it

appears that the cliché shown in Figures 6A-6D, 7A-7E, and 8A-8C of Okazaki et al. meet that relationship--as pointed out by the Examiner in the marked-up copy of Figures 6B, 7C, and 8B attached to this Office Action, which illustrates what structure the Examiner is considering to be the first and second groove structures and interval as recited. Regardless, it would have been obvious to one of ordinary skill in the art to provide a cliché having first and second groove structures with the size relationship as recited, as the particular sizes and arrangements of the groove structures of the cliché are dependent upon such factors as the particular configuration of the pattern desired to be printed, the desired thickness of pattern to be printed, the viscosity of the material being printed on the substrate, etc.

With respect to claim 5, note Okazaki et al. teach applying the resist material 3 onto an etching object layer comprises contacting and rotating a printing roll 9 onto the cliché 1 to transfer the resist material to a surface of the printing roll and contacting the resist material formed on the surface of the printing roll to transfer the material to an etching object layer of the substrate 6, as shown in Figures 7D-7E and 8B-8C in particular.

With respect to claim 6, note Okazaki et al. teach applying the resist material onto the etching object layer can also be accomplished by a direct contact printing step as shown in Figures 1A-1E and 6A-6D and described in column 4, line 54 through column 5, line 23, and again in column 7, lines 6-12. In particular, the applying step shown in Figures 1E and 6D in particular

includes contacting the etching object layer with the cliché and detaching the substrate from the cliché to transfer the resist material from the grooves to the etching object layer. Note that the direct contact of the cliché and substrate would inherently include application of pressure to the substrate to some extent.

With respect to claim 7, note Okazaki et al. teach the substrate including the etching object layer can be comprised of a metal in column 8, lines 29-34.

With respect to claim 10, Okazaki et al. teach depositing the resist material 3 along the entire surface of the cliché 1 and contacting a doctor blade 4 onto the surface of the cliché to flatten the resist material and fill the resist material into the grooves and remove the resist material that remains on the surface. See Figures 1C-1, 6B, and 7B and column 4, lines 54-61 in particular.

7. Claims 2-4 and 11-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okazaki et al. (US 5,127,330) as applied to claims 1, 5-7, and 10 above, and further in view of Kleist (US 5,662,041).

Okazaki et al. teach a method for forming a pattern of a LCD device having all of the steps as recited, with the exception of the particular details of how the cliché is prepared and formed. Although it is noted that Okazaki et al. is silent with respect to whether the cliché includes providing a buffer layer and patterning the buffer layer, providing a printing cliché including a buffer layer

made of metal or organic material to be patterned is well known in the art as exemplified by Kleist in column 1, lines 48-62 and column 3, lines 19-37. In view of this teaching, it would have been obvious to one of ordinary skill in the art to provide the cliché of Okazaki et al. with a buffer layer to be patterned as taught by Kleist to provide simple manufacturing of a printing cliché for relatively short production runs.

With respect to claims 11 and 12, note Okazaki et al. as modified by Kleist render obvious the method(s) of forming a pattern of an LCD device as recited. Note, in particular, the above comments with respect to claims 1, 5, 6, and 10.

8. Claims 8-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okazaki et al. as applied to claims 1, 5-7, and 10 above, and further in view of Choi et al. (US 2002/0109799 A1). Okazaki et al. teach a method as recited with the exception of the etching object layer being an organic layer or including SiNx or SiOx as recited. However, note Choi et al. teach a liquid crystal display device including an insulating layer to be etched which is made of such materials as SiNx, SiO₂, or organic material is well known in the art, as exemplified by paragraph [0036] of Choi et al. in particular. In view of this teaching, it would have been obvious to provide the etching object layer of Okazaki et al. to include an organic layer as taught by Choi et al. as it would

simply require the obvious selection of a known material based upon its known properties to provide an improved LCD device.

Examiner's Comment Regarding 103(a) Rejections Including Kwon et al.
(US 2003/0084796A1)

9. The applied reference has a common inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art only under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 103(a) might be overcome by: (1) a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not an invention "by another"; (2) a showing of a date of invention for the claimed subject matter of the application which corresponds to subject matter disclosed but not claimed in the reference, prior to the effective U.S. filing date of the reference under 37 CFR 1.131; or (3) an oath or declaration under 37 CFR 1.130 stating that the application and reference are currently owned by the same party and that the inventor named in the application is the prior inventor under 35 U.S.C. 104, together with a terminal disclaimer in accordance with 37 CFR 1.321(c). This rejection might also be overcome by showing that the reference is disqualified under 35 U.S.C. 103(c) as prior art in a rejection under 35 U.S.C. 103(a). See MPEP § 706.02(l)(1) and § 706.02(l)(2).

Applicant has attempted to disqualify reference Kwon et al. (US 2003/084796 A1) under 35 U.S.C. 103(c) by showing that the invention was owned by, or subject to an obligation of assignment to, the same entity as the present application (serial no. 10/718,561) at the time this invention was made. See, for example, page 9 of the remarks section of the amendment dated November 22, 2005. However, applicant has failed to provide a statement that the application and the reference were owned by, or subject to an obligation of assignment to, the same person at the time the invention was made in a conspicuous manner, and therefore, is **not** disqualified as prior art under 35 U.S.C. 103(a). Applicant must file the required evidence in order to properly disqualify the reference under 35 U.S.C. 103(c). See MPEP § 706.02(l). In particular, the MPEP states that “the fact that the reference and the application have the same assignee is not, by itself, sufficient evidence to disqualify the prior art under 35 U.S.C. 103(c). There must be a statement that the common ownership was ‘at the time the invention was made.’”

In addition, applicant may overcome the applied art either by a showing under 37 CFR 1.132 that the invention disclosed therein was derived from the inventor of this application, and is therefore, not the invention “by another,” or by antedating the applied art under 37 CFR 1.131.

Since applicant has failed to properly disqualify the Kwon et al. reference under 35 U.S.C. 103(c), the following rejections are also deemed appropriate by the Examiner:

10. Claims 1, 5-8, and 10 are rejected under 35 U.S.C. 103(a) as being obvious over Kwon et al. (US 2003/0084796A1).

Kwon et al. teach a method for forming a pattern of a LCD device comprising providing a cliché 100 having at least a first groove structure with a first width and a second groove structure with a second width, filling a “resist” material 104 (see paragraph [0034]) into the first and second groove structures of the cliché and applying the resist material onto an etching object layer 121 of a substrate 120. See Figure 3(a)-(c) and 5 and paragraphs [0029]-[0034] in particular. Furthermore, note Kwon et al. teach the printing ink 104 functions as a “resist” material as broadly recited in paragraph [0034] in particular. Although Kwon et al. does not specifically teach the particular groove width size relationship recited, it appears that the cliché shown in Figures 3A and 5 meet that relationship--as pointed out by the Examiner in the marked-up copy of Figures 3A and 5 attached to this Office Action, which illustrates what structure the Examiner is considering to be the first and second grooves and interval as recited. Regardless, it would have been obvious to one of ordinary skill in the art to provide a cliché having first and second grooves with the size relationship as recited, as the particular sizes and arrangements of the grooves of the cliché are dependent upon such factors as the particular configuration of the pattern desired to be printed, the desired thickness of the pattern to be printed, the viscosity of the material being printed on the substrate, etc.

With respect to claim 5, note Kwon et al. teach applying the resist material 104 onto an etching object layer 121 comprises contacting and rotating a printing roll 110 onto the cliché 100 to transfer the resist material to a surface of the printing roll and contacting the resist material 104 formed on the surface of the printing roll to transfer the material to an etching object layer 121 of the substrate 120, as shown in Figures 3(b) and 3(c) in particular.

With respect to claim 6, note Kwon et al. teach applying the resist material onto the etching object layer can also be accomplished by a direct contact printing step as shown in Figure 5 and described in paragraph [0047]. In particular, the applying step shown in Figure 5 includes contacting the etching object layer with the cliché and detaching the substrate from the cliché to transfer the resist material from the grooves to the etching object layer. Note that the direct contact of the cliché and substrate would inherently include application of pressure to the substrate to some extent.

With respect to claims 7-8, note Kwon et al. teach an etching object layer 121 comprising metal (Al) or SiO_x (SiO₂) or SiN_x in paragraph [0033].

With respect to claim 10, Kwon et al. teach depositing the resist material along the entire surface of the cliché and contacting a doctor blade onto the surface of the cliché to flatten the resist material and fill the resist material into the grooves and remove the resist material that remains on the surface. See column Figure 3(a) and paragraph [0029] in particular.

11. Claims 2-4 and 11-12 are rejected under 35 U.S.C. 103(a) as being obvious over Kwon et al. (US 2003/084796 A1) as applied to claims 1, 5-8 and 10 above, and further in view of Kleist (US 5,662,041).

Kwon et al. teach a method for forming a pattern of a LCD device having all of the steps as recited, with the exception of the particular details of how the cliché is prepared and formed. Although it is noted that Kwon et al. is silent with respect to the particular details of how the cliché is prepared and whether it includes providing a buffer layer and patterning the buffer layer, providing a printing cliché including a buffer layer made of metal or organic material to be patterned is well known in the art as exemplified by Kleist in column 1, lines 48-62 and column 3, lines 19-37. In view of this teaching, it would have been obvious to one of ordinary skill in the art to provide the cliché of Kwon et al. with a buffer layer to be patterned as taught by Kleist to provide simple manufacturing of a printing cliché for relatively short production runs.

With respect to claims 11 and 12, note Kwon et al. as modified by Kleist render obvious the method(s) of forming a pattern of an LCD device as recited. Note, in particular, the above comments with respect to claims 1, 5, 6, and 10.

8. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kwon et al. as applied to claims 1, 5-8, and 10 above, and further in view of Choi et al. (US 2002/0109799 A1). Kwon et al. teach a method as recited with the exception of the etching object layer being an organic layer as recited.

However, note Choi et al. teach a liquid crystal display device including an insulating layer to be etched which is made of such materials as SiNx, SiO2, or organic material is well known in the art, as exemplified by paragraph [0036] of Choi et al. in particular. In view of this teaching, it would have been obvious to provide the etching object layer of Kwon et al. to include an organic layer as taught by Choi et al. as it would simply require the obvious selection of a known material based upon its known properties to provide an improved LCD device.

Response to Arguments

12. Applicant's arguments with respect to claims 1-12 have been considered but are moot in view of the new ground(s) of rejection.

In particular, note Okazaki et al. renders obvious the method of forming a pattern as set forth in the above rejections.

Furthermore, with respect to the Kwon et al. rejection, again the Examiner points out that applicant has failed to properly disqualify Kwon et al. as a reference because applicant did not make a proper statement under 35 USC 103(c) as set forth in paragraph (9) above.

Conclusion

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Yamamoto et al. (US 5,201,268) teach a method of

forming an LCD pattern including an intaglio plate having grooves to form a fine pattern. Yi et al. (US 2003/0081095) teach both an indirect and direct printing method for forming a pattern of an LCD are well known in the art in Figures 2A-2D and 3A-3D.

14. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

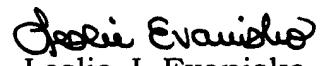
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Leslie J. Evanisko** whose telephone

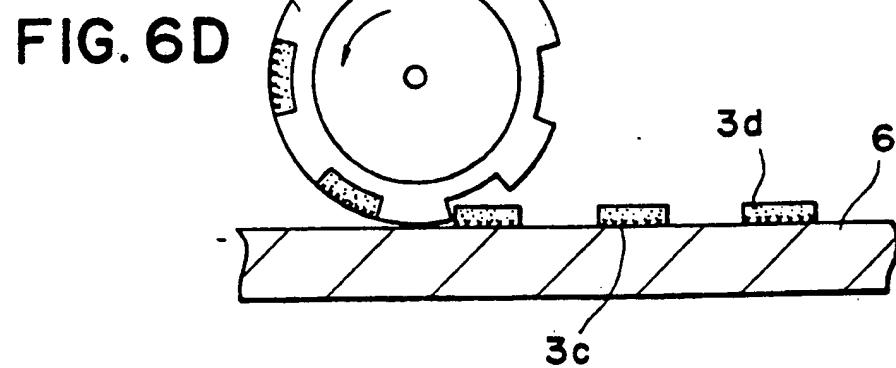
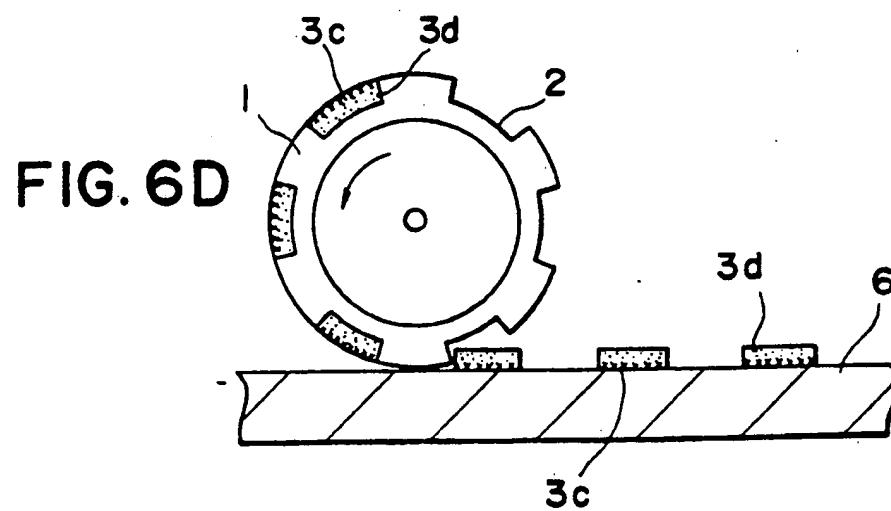
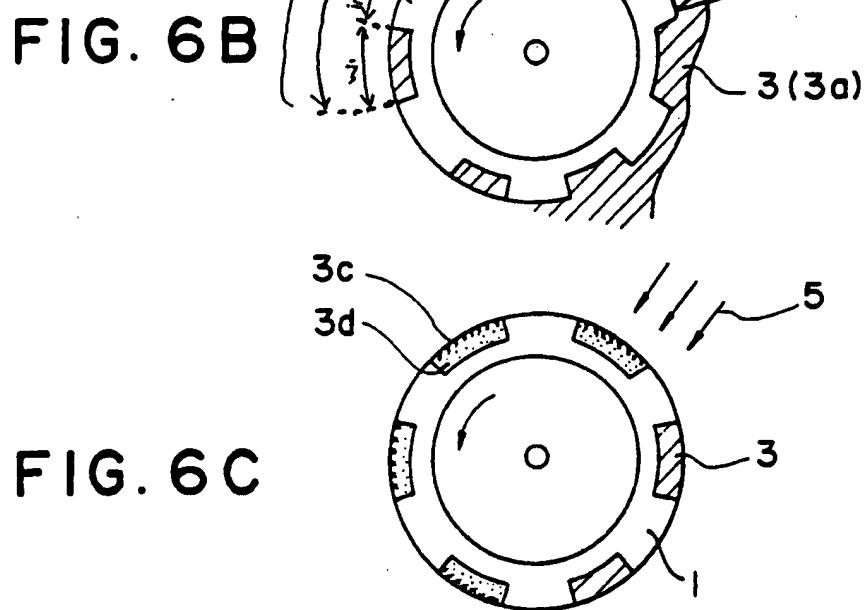
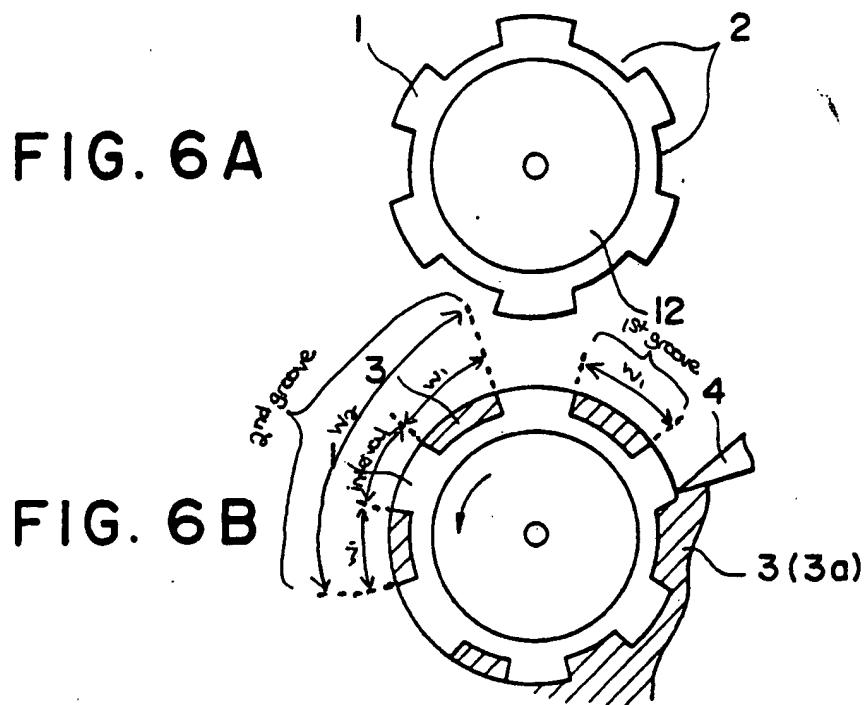
number is **(571) 272-2161**. The examiner can normally be reached on M-Th 7:30 am-6:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew H. Hirshfeld can be reached on (571) 272-2168. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Leslie J. Evanisko
Primary Examiner
Art Unit 2854

lje
February 1, 2006



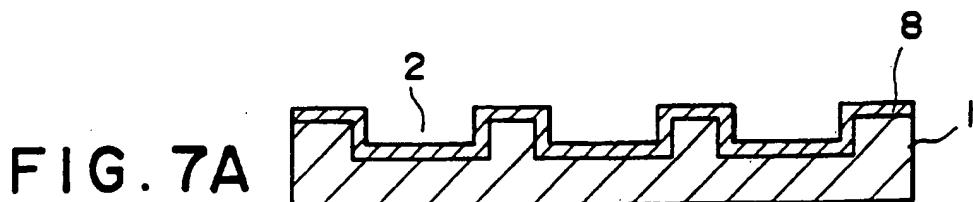


FIG. 7A

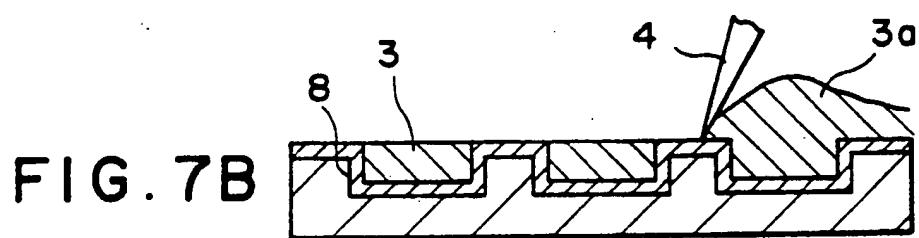


FIG. 7B



FIG. 7C

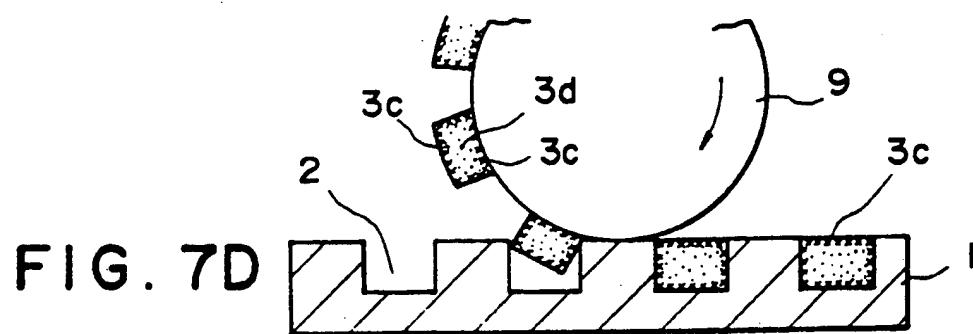


FIG. 7D

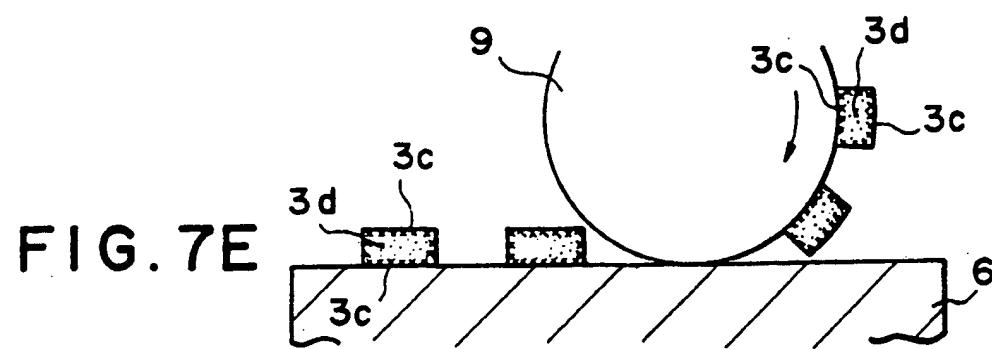


FIG. 7E

FIG. 8A

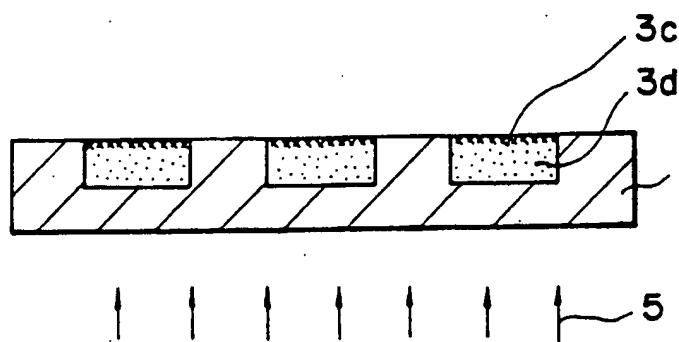


FIG. 8B

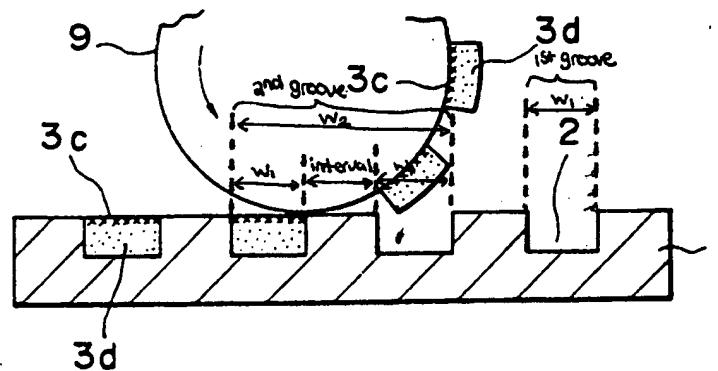


FIG. 8C

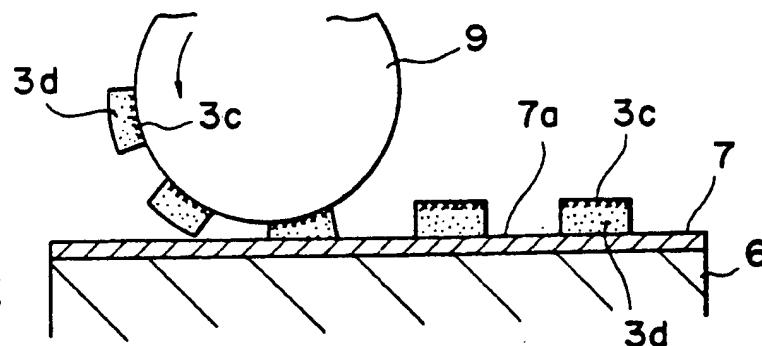


FIG. 9

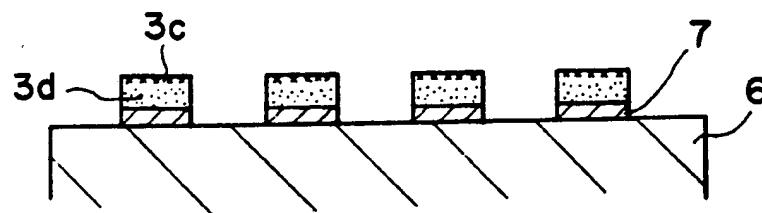


FIG. 3A

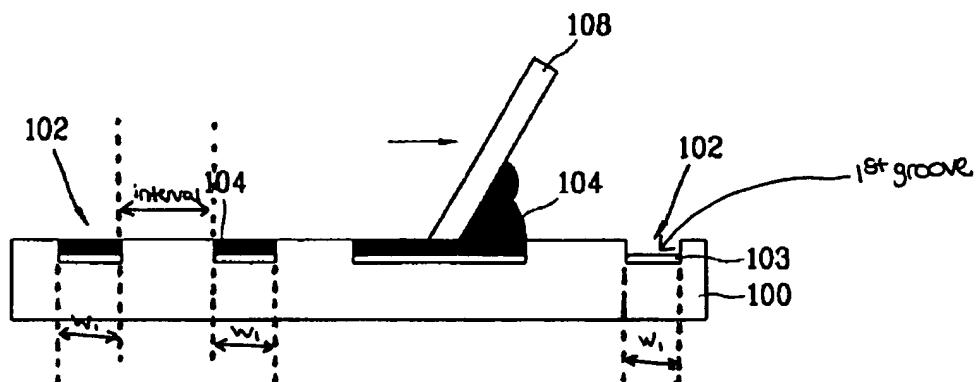


FIG. 3B

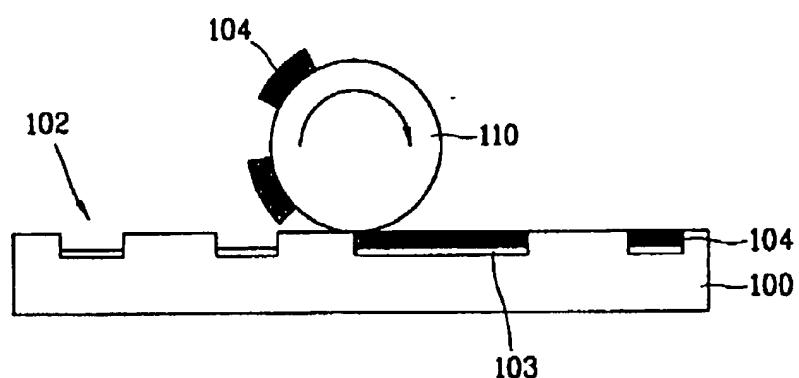


FIG. 3C

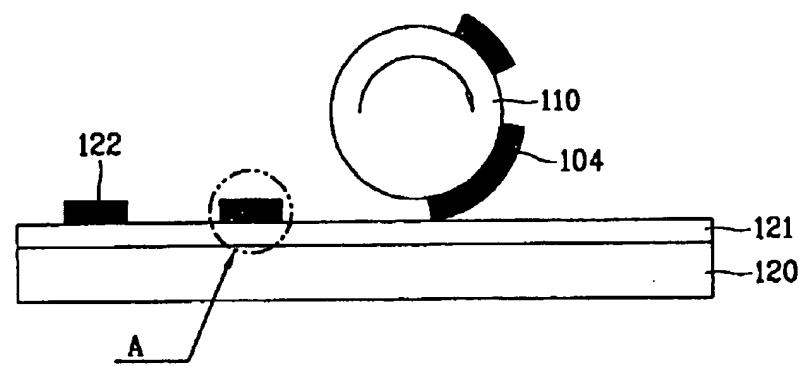


FIG. 4

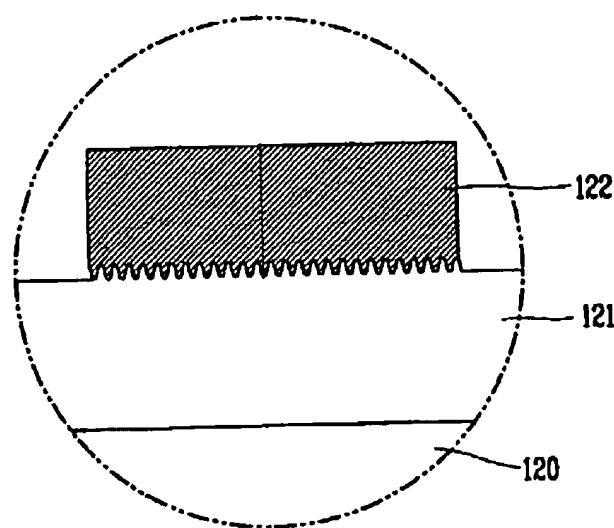


FIG. 5

